

Claims

- [c1] 1. An optical disc drive comprising:
- a housing having two tracks;
 - a tray installed inside the housing along the two tracks;
 - a solenoid fixed on the tray for providing magnetic force;
 - a latch installed beside the solenoid for moving according to changes of the magnetic force;
 - a push rod fixed on the tray with one end connected to the latch;
 - an elastic device installed on the tray for elastically moving the push rod;
 - a positioning shaft fixed on the housing; and
 - a hook having a first end fixed on the tray, a second end positioned next to the push rod, and the third end for engaging with the positioning shaft.
- [c2] 2. The optical disc drive of claim 1 wherein the solenoid comprises a magnet and a coil and the solenoid is capable of attracting the latch and the latch is capable of linking with the push rod being pushed forward to the elastic device when the coil is not supplied with power; the coil is capable of generating the magnetic force to counteract the magnetic force of the magnet and the

elastic device is capable of moving the push rod forward when the coil is supplied with power.

- [c3] 3.The optical disc drive of claim 1 further comprising a torsion spring installed on the hook for providing a twisting force to the hook to return the hook to its original position when the hook is moved by a small angle.
- [c4] 4.The optical disc drive of claim 1 further comprising an extension spring installed on the tray for elastically moving the tray.
- [c5] 5.The optical disc drive of claim 1 wherein the elastic device comprises an external sliding part installed on the tray in a sliding manner, an internal sliding part being disposed within the external sliding part.
- [c6] 6.The optical disc drive of claim 5 wherein the elastic device further comprises an elastomer connecting the external sliding part and the internal sliding part.
- [c7] 7.The optical disc drive of claim 6 wherein the elastomer is a compression spring.
- [c8] 8.The optical disc drive of claim 5 wherein the external sliding part comprises a protrusion for contacting an extended part of the track to prevent the external sliding part from moving excessively when the push rod is

pushed against the elastic device.

- [c9] 9.The optical disc drive of claim 1 wherein the positioning shaft is riveted to the housing.
- [c10] 10.The optical disc drive of claim 1 wherein the first end of the hook has an edge, the second end of the hook has an edge touching the push rod, and the third end of the hook has a tongue-shaped extension part.
- [c11] 11.The optical disc drive of claim 1 wherein the hook is used for locking the positioning shaft to fix the tray.
- [c12] 12.The optical disc drive of claim 1 wherein the push rod is an L-shaped push rod installed on the tray in a rotatable manner, and the push rod includes a protruding shaft connecting to a hole of the latch.